IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	: Jonathan S. Stinson	Art Unit	: 1793
Serial No.	: 10/672,891	Examiner	: Jessee Randall Roe
Filed	: September 26, 2003	Conf. No.	: 9546
Title	: MEDICAL DEVICES AND METHODS OF MAKING SAME		

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BRIEF ON APPEAL

A Notice of Appeal from the rejection of the pending application (USSN 10/672,891) was filed concurrently with this Brief on Appeal.

(1) Real Party in Interest

The real party in interest is Boston Scientific Scimed, Inc. (formerly SciMed Life Systems, Inc.).

(2) Related Appeals and Interferences

There are no related appeals or interferences.

(3) Status of Claims

Claims 1-6, 9-12, 14-21, and 41 are pending. Claims 7, 8, 13, and 22-40 were cancelled during prosecution.

Claims 1-6, 9-12, 14-21, and 41 stand rejected and are appealed herein.

Claims 1-6, 11, 12, 14, 15, 19, and 41 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lau et al., U.S. Patent No. 5,728,158 ("Lau"), in view of Lenning et al., U.S. Patent No. 3,161,503 ("Lenning"). Claims 16-18 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Lau in view of Lenning, and further in view of "the ASM Handbook Volume 2 ("Handbook"). Claim 20 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Lau in view of Lenning, and further in view of Scott et al., U.S. Patent No. 5,383,928 ("Scott"). Claim 21 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Lau in view of Lenning, and further in view of Wiktor, U.S. Patent No. 5,653,727 ("Wiktor").

Claims 1-6, 9-10, 12, 14, 15, and 19 also stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Fischell et al., U.S. Patent No. 5,643,312 ("Fischell"), in view of Steinemann et al., U.S. Patent No. 4,040,129 ("Steinemann"). Claim 20 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Fischell in view of Steinemann, and further in view of Scott. Claim 21 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Fischell in view of Steinemann, and further in view of Wiktor.

Claims 1-6, 9-12, 14-15 and 18-21 also stand rejected under 35 U.S.C. § 112, first paragraph, for failing to comply with the written description requirement.

(4) Status of Amendments

All amendments have been entered.

(5) Summary of Claimed Subject Matter

The claims feature balloon-expandable medical stents having a generally tubular body that incorporate an alloy having a composition meeting certain requirements. *See e.g.,* Specification, paragraph 7. The alloy must have Ti at about 20 weight percent or more and at least one of Zr, Ta, or Mo. *See e.g.,* Specification, paragraph 7. The alloy must have a yield strength of about 45 ksi or more, a magnetic susceptibility of about +1 or less, and a mass absorption coefficient of about 1.9 cm^2/g or more. *See e.g.,* Specification, paragraph 9. The claimed alloys are formulated to provide desired characteristics for balloon-expandable stents, including magnetic resonance, radiopacity, biocompatibility, and/or mechanical characteristics. *See e.g.,* Specification, paragraph 24.

Independent claim 1 further requires that the alloy includes 20 weight percent or greater of Zr, Ta, Mo or a combination thereof, with the proviso that the alloy includes at least about 3 weight percent of Mo. *See e.g.,* Specification, paragraph 8; original claims 7 and 13. Other claims that depend from independent claim 1 include additional requirements for the alloy, for example, that the alloy includes about 50 weight percent Ti or greater, includes 10 weight percent or more of Zr, about 50 weight percent of Zr, about 40 weight percent or more of Ta, or about 20 weight percent or less of Mo. *See e.g.,* Specification, paragraph 33; original claims 9-12 and 14.

Independent claim 41 specifies that in addition to having Ti at about 20 weight percent or more, the alloy includes about 40 weight percent or more of Ta. *See e.g.,* Specification, paragraph 33; original claim 11.

(6) Grounds of Rejection to be Reviewed on Appeal

Claims 1-6, 11, 12, 14, 15, 19, and 41 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lau in view of Lenning. Claims 16-18 stand rejected under 35 U.S.C. 103(a) as being allegedly unpatentable over Lau in view of Lenning, and further in view of Handbook. Claim 20 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Lau in view of Lenning, and further in view of Scott. Claim 21 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Lau in view of Lenning, and further in view of Wiktor.

Claims 1-6, 9-10, 12, 14, 15, and 19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Fischell in view of Steinemann et al. Claim 20 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Fischell in view of Steinemann, and further in view of Scott. Claim 21 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Fischell in view of Steinemann, and further in view of Wiktor.

Claims 1-6, 9-12, 14-15 and 18-21 stand rejected under 35 U.S.C. § 112, first paragraph, for failing to comply with the written description requirement.

Each of the above noted grounds of rejection is being appealed herein.

(7) Argument

Each of the currently pending rejections is in error for the reasons given below.

A. The Combination of Lau and Lenning is Improper.

Claims 1-6, 11, 12, 14, 15, 19, and 41 are patentable over Lau in view of Lenning because a person of ordinary skill in the art would not find any reason to use any of the alloys disclosed by Lenning to make the stent of Lau. Because a person of ordinary skill in the art at the time of invention would have no reason to make the proposed combination, the rejection is in error and must be reversed.

Lau discloses an expandable stent and a method of making it from a single length of tubing. (Lau, Abstract). Lau discloses that the stent can be made of "suitable biocompatible

material such as stainless steel, tantalum, titanium, superelastic NiTi alloys and even high strength thermoplastic polymers." Lau, col. 7, lines 5-7. Lau, however, fails to disclose any alloy for the stent meeting the requirements set forth in the claims.

Lenning discloses the use of corrosion resistant and thermally stable alloys for use in high temperature and/or highly caustic environments such autoclaves. Lenning, col. 2, lines 7-14 & col. 9, line 59. Lenning also states that the alloys approach the corrosion resistant properties "of pure tantalum." Lenning, col. 2, lines 10-13. Lenning goes on to discuss how prior alloys of titanium and tantalum "approach the corrosion resistance of tantalum in their ability to withstand corrosive effects of solutions such as boiling hydrochloric, sulfuric, phosphoric or oxalic acids," but become brittle "[w]hen exposed to temperatures of the order of several hundred degrees Fahrenheit." Lenning, col. 1, lines 14-28. Lenning goes on to discuss that the disclosed alloys remain ductile "after exposure to temperatures up to 800° F.," and "can be used for long periods of time without fear of embitterment under corrosive conditions at elevated temperatures, as for example, when employed as structural or lining materials in autoclaves, and similar relatively high temperature and pressure equipment," or when "in contact with aqueous solutions even up to their boiling point." Lenning, col. 9, lines 46-62.

The rejection proposing the combination of Lau and Lenning is improper because a person of ordinary skill in the field of stent design looking to make a better stent would not look at alloys used for autoclaves. Furthermore, the disclosures of Lau and Lenning would not give a person of ordinary skill in the field of stent design any reason to make the stent of Lau out of the alloys disclosed by Lenning. Lenning describes alloys suitable for use in highly corrosive and high temperature environments wholly dissimilar from the type of environments experienced by the stent described by Lau. There is also no suggestion in Lenning that the alloys disclosed by Lenning would have the host of other properties suitable for the stent of Lau. A person of ordinary skill in the field of stent design would know that balloon-expandable stents require various combinations of physical properties other than mere corrosion resistance. For example, a balloon-expandable stent should be able to withstand deformation under the normal physiological conditions, but undergo large permanent deformations when being implanted. Accordingly, the rejection is in error because a person of ordinary skill in the field of stent design

would not find any reason, either implicit or explicit, to even consider using any of the alloys disclosed by Lenning to make the stent disclosed by Lau.

The proposed combination is also improper because the Examiner's alleged reason for making the combination is "to improve corrosion resistance." Office Action mailed 10/29/2007, page 6. Lau already discloses the use of tantalum for producing a stent. Lau, col. 7, line 6. Lenning, on the other hand, only states that the Lenning alloys approach the corrosion resistance of pure tantalum. Lenning, col. 2, lines 12-13. Accordingly, a person of ordinary skill in the field of stent design would not make the proposed substitution in order "to improve corrosion resistance" because Lenning does not disclose or even suggest that the alloys disclosed by Lenning have a greater corrosion resistance than the tantalum disclosed by Lau. Accordingly, the rejection is in error because the alleged reason would not have prompted one having ordinary skill in the field of stent design to make the balloon-expandable stent of Lau out of the Lenning alloy.

Appellant also notes that the Examiner is mischaracterizing the disclosure of Lau when making the statement that "Lau et al. ('158) discloses a balloon expandable stent that would comprise a generally tubular body wherein the stent would be fabricated from titanium and/or tantalum alloy where corrosion resistance would be desired (Figures 2-4, col. 7, lines 5-8 and col. 8, line 30)." Office Action mailed 10/29/2007, page 6. Column 8, line 30 of Lau is part of a recipe for an acidic aqueous solution disclosed as being used to electrochemically polish the stents when making the stents. Lau, col. 8, lines 25-36. Contrary to the Examiner's statement, this passage does not suggest the use of titanium or tantalum alloys where corrosion resistance would be desired. Furthermore, as discussed below, Lau never discloses a "titanium and/or tantalum alloy," but instead only discloses titanium or tantalum, and never explicitly discloses that titanium or tantalum are used "where corrosion resistance would be desired." Appellant notes that none of the metallic materials disclosed by Lau experience corrosion problems within the environment of a blood vessel.

Appellant also traverses the Examiner's interpretation of Lau regarding the materials disclosed by Lau. Lau states that "[t]he tubing may be made of suitable biocompatible material such as stainless steel, titanium, tantalum, superelastic NiTi alloys and even high strength thermoplastic polymers." Lau, col. 7, lines 5-7. The Examiner asserts that this passage amounts

to a disclosure of "a balloon-expandable stent fabricated from titanium and/or tantalum alloy" because "the word 'alloys' succeeds the phrase 'stainless steel, titanium, tantalum, superelastic NiTi'." Final Office Action mailed April 1, 2008, page 6. Appellant disagrees. The word "alloys" is part of the phrase "superelastic NiTi alloys" and does not modify the words "titanium" or "tantalum." Pure titanium and tantalum are known materials for the production of a stent. Furthermore, even if the word "alloys" does modify the other materials in the list, that would not result in a disclosure of an alloy of titanium and tantalum, as alleged by the Examiner. This is relevant because the Examiner seems to allege that a lack of a specifically disclosed "titanium and/or tantalum alloy" would send a person of ordinary skill in the art in search of a particular alloy of these materials for use in the Lau stent. *See* Office Action mailed 10/29/2007, page 6. A person of ordinary skill in the field of stent design would understand Lau to be disclosing the use of pure titanium or tantalum, and not take the Lau disclosure to be some type of invitation to search for a useful titanium and/or tantalum alloy.

Appellant also notes that the Examiner's argument that the claim does not exclude the possibility of a stomach stent is irrelevant. See Office Action, page 6. Aside from the fact that a stomach would not be expected to include "boiling hydrochloric" acid, the relevant question for the obviousness inquiry is not whether the instant claims exclude a far-fetched possibility, but whether one having ordinary skill in the art would make the proposed combination of alloys disclosed by Lenning to make the stent disclosed by Lau. Lau does not disclose the use of the stent in any environment even remotely close to the high temperature and highly caustic environments discussed in Lenning. Lau does not even discuss the use of the stent within any part of the digestive system, but instead discloses the placement of the stent within a blood vessel (e.g., an artery). Lau, abstract. Because Lenning is directed towards alloys for highly corrosive, high temperature environments, one having ordinary skill in the field of stent design would not even look to Lenning for selecting a replacement material for the materials disclosed by Lau.

The rejections of claims 16-18 over Lau in view of Lenning, and further in view of Handbook, of claim 20 over Lau in view of Lenning, and further in view of Scott, and of claim 21 over Lau in view of Lenning, and further in view of Wiktor are also in error. None of these additional secondary references would give one having ordinary skill in the art any reason to

make the alleged combinations of Lau and Lenning. Accordingly, the rejections of dependent claims 16-18, 20, and 21 are also improper for the reasons given above.

B. The Combination of Fischell and Steinemann is Improper.

The rejection of claims 1-6, 9, 10, 12, 14, 15 and 19 as unpatentable over Fischell in view of Steinemann is also in error. Fischell, the primary reference, discloses a structural design for an expandable stent, which can be made of "stainless steel, tantalum, titanium, or a shape memory metal such as Nitinol." (Fischell, col. 3, lines 51-53). Fischell further discloses the following:

> For example, the stent rings and longitudinals could all be fabricated from titanium or a titanium alloy except the end rings which could be formed from gold which is then plated with titanium. Thus, the entire outside surface of the stent would be titanium, which is known to be a comparatively non-thrombogenic metal while the gold in the end rings provides an improved fluoroscopic image of the stent extremities.

(Fischell, col. 3, lines 11-19). Fischell fails to disclose an alloy for the stent having the composition set forth in claims 1-6, 9, 10, 12, 14, 15 and 19.

Steinemann discloses an "[i]mplant for bone surgery and for dental therapeutics, comprising an alloy containing defined critical amounts of titanium and/or zirconium, and other selected elements." Steinemann, abstract. Steinemann goes on to disclose that certain prior art materials, such as titanium, "show sufficient tissue compatibility." Steinemann, col. 1, lines 18-32. Steinemann also states that titanium does not include toxic elements and that titanium does not have a corrosion problem. *See* Steinemann, Tables II & III. Steinemann, however, indicates that the mechanical properties of these prior art materials require implants to have "stronger dimensioning . . . prevent fatigue-conditioned brakeage of the implant," which results in an overly rigid implant that does "not permit functional loading of the bone bridged by the implant, and therefor results [in] dangerous weakening of the bone substance or decalcification and further fractures." Steinemann, col. 1, lines 35-55. The implants disclosed by Steinemann each involve connection to, or at least contact with, bone. *See* Steinemann, col. 4, line 60 – col. 5, line

8. There is no disclosure in Steinemann that suggests that the alloys disclosed by Steinemann are useful for implants that do not contact bone.[1]

The proposed combination of Fischell with Steinemann is improper because a person of ordinary skill in the field of stent design would not find any reason within Fischell or Steinemann that would give the person a reason to use the alloys of Steinemann, as opposed to the titanium disclosed by Fischell, to produce the stent of Fischell. Steinemann recognizes that titanium is a sufficiently tissue compatible and corrosion resistant. Steinemann is concerned about allowing implants to allow functional loading of bone bridged by the implant. Because the stent of Fischell is not disclosed as being used to bridge bone (and is not connected to or even adjacent to bone), a person of ordinary skill in the field of stent design would not find any reason to use any alloy disclosed by Steinemann to produce the stent of Fischell.

The Examiner, however, alleges that a person of ordinary skill in the art would have made the alleged combination "in order to combine corrosion resistance, compatibility, and high strength for uses in surgery (balloon expandable stent), as disclosed by Steinemann." Office Action mailed 10/29/2007, page 4. This argument is flawed for the following reasons.

The argument is flawed because it fails to consider that one having ordinary skill in the art would recognize that titanium is already a sufficiently corrosion resistant and sufficiently tissue compatible material. As discussed above, the disclosure of Steinemann supports this fact. Furthermore, although Steinemann discloses that the disclosed alloys are corrosion resistant and tissue compatible, Steinemann does not assert that these alloys are more corrosion resistant or more tissue compatible than titanium. Accordingly, one having ordinary skill in the art would not make the asserted combination based on the corrosion resistance or tissue compatibility of the alloys of Steinemann.

The argument is also flawed because a person of ordinary skill in the art would recognize that the "high strength" disclosed by Steinemann is inapplicable to stents. As discussed above, the "high strength" of the Steinemann alloy is irrelevant to stent design because stents are not

[1] The Examiner's argument that broad scope of the term "surgical implants" includes balloon-expandable stents is irrelevant to the question of the obviousness of the asserted combination. Final Office Action mailed 4/1/2008, page 4. The relevant question for the obviousness inquiry is whether an artisan having ordinary skill in the art would have made the asserted combination based on the totality of each disclosure. Steinemann does not disclose the use of the alloys in stents, and, as discussed in this Appeal Brief, does not suggest that the alloys are useful for stents, regardless of the broad scope of the term "surgical implants."

implanted within or against bone. Additionally, a person of ordinary skill in the field of stent design would know that balloon-expandable stents require various combinations of mechanical properties. For example, a balloon-expandable stent should be able to withstand deformation under the normal physiological conditions, but undergo large permanent deformations when being implanted. A person of ordinary skill in the field of stent design would realize that different alloys have different physical and mechanical qualities, and that balloon-expandable stents require a host of particular physical and mechanical properties that would not necessarily be met by the alloys disclosed by Steinemann. Accordingly, the person would not find the disclosed "high strength" of the Steinemann alloys to suggest that the Steinemann alloys are suitable for balloon-expandable stents.

As the Supreme Court recently explained, "[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *KSR Int'l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1741 (2007). In that regard, "it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does." *Id.* The mere fact that the prior art reference could be modified does not satisfy the requirements for a finding of obviousness. *In re Laskowski*, 871 F.2d 115, 117 (Fed. Cir. 1989); *In re Mills*, 916 F.2d 680, 682 (Fed. Cir. 1990). Because the reasons alleged by the Examiner would not have prompted a person of ordinary skill to make the alleged combination, the rejection is in error.

The rejections of claim 20 over Fischell in view of Steinemann and further in view of Scott and claim 21 over Fischell in view of Steinemann and further in view of Wiktor are also in error. None of these additional secondary references would give one having ordinary skill in the art any reason to make the alleged combinations of Fischell in view of Steinemann. Accordingly, the rejections of dependent claims 20 and 21 are also improper for the reasons given above.

C. The Claims Comply with the Written Description Requirement.

The rejection of claims 1-6, 9-12, 14, 15, and 18-21 under 35 U.S.C. § 112, first paragraph, is in error. The Office Action mailed 10/29/2007 alleges that these claims fail to

comply with the written description requirement because "[t]he specification does not contain literal support for a molybdenum base alloy." Office Action mailed 10/29/2007, page 3. Contrary to the Examiner's allegation, these claims do not claim a "molybdenum base alloy." Instead, claims 1-6, 9-12, 14, 15, and 18-21 recite that "that the alloy includes at least about 3 weight percent of Mo." Support for the claim requirement "that the alloy includes at least about 3 weight percent of Mo" can be found, for example, in original claim 13. This rejection is in error because the claimed stent including the claimed alloy is adequately described with sufficient particularity such that one skilled in the art would recognize that the applicant had possession of the claimed invention. *See* MPEP § 2163. Accordingly, the rejection should be withdrawn.

The Examiner, however, argues that the rejection is proper because "the claims encompass any amount of Mo including for example, 50, 60, 70 weight percent Mo, that is, the claims encompass Mo based alloys. Thus, the scope of claim 1 would include a molybdenum base alloy which is not found in the instant specification." Final Office Action mailed 4/1/2008, page 4. This argument, however, demonstrates that the Examiner is not correctly applying the law regarding written description. It is well established that "[a] specification may, within the meaning of 35 U.S.C. § 112 ¶ 1, contain a written description of a broadly claimed invention without describing all species that claim encompasses." *Utter v. Hiraga*, 845 F.2d 993 (Fed. Cir. 1988). Furthermore, the presence of claim 13 as originally presented indicates that one skilled in the art would recognize that the applicant had possession of the claimed subject matter because original claim 13 did not have an upper limit on the amount of Mo. "There is a strong presumption that an adequate written description of the claimed invention is present when the application is filed." MPEP § 2163 (*citing In re Wertheim*, 541 F.2d 257, 263 (C.C.P.A. 1976)). The PTO has "the initial burden of presenting evidence or reasons why persons skilled in the art would not recognize in the disclosure a description of the invention defined by the claims." The Examiner, here, has not presented any evidence or reasons why persons skilled in the art would not recognize that the applicant had possession of the claimed subject matter at the time of invention. Accordingly, the rejection is deficient and should be withdrawn.

Furthermore, the Examiner's reasons for maintaining the rejection center around the lack of an upper limit on the amount of Mo. The rejection, however, also rejects dependent claim 14,

which recites "wherein the alloy includes about 20 weight percent or less of Mo." The rejection of dependent claim 14 is inconsistent with the Examiner's asserted reason for rejecting claim 1. Other claims have other inherent upper limits for the amounts of Mo based on the required amounts of other constituents.

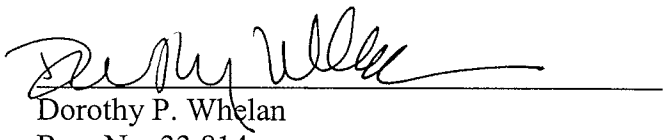
D. Conclusion

Because each of the currently pending rejections are in error for the reasons given above, Appellant requests a reversal of each pending rejection. Appellant also believes that each of the currently pending claims 1-6, 9-12, 14-21, and 41 includes allowable subject matter over the cited prior art. Accordingly, Appellant requests a prompt allowance of the instant application.

The brief fee of $510 is enclosed. Please apply any other charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: May 19, 2008



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Appendix of Claims

1. A balloon-expandable medical stent, comprising: a generally tubular body including an alloy having Ti at about 20 weight percent or more and at least one of Zr, Ta, or Mo, wherein the alloy includes 20 weight percent or greater of Zr, Ta, Mo or a combination thereof, with the proviso that the alloy includes at least about 3 weight percent of Mo, the alloy having a yield strength of about 45 ksi or more, a magnetic susceptibility of about +1 or less, and a mass absorption coefficient of about 1.9 cm^2/g or more.

2. The stent of claim 1 wherein the alloy has a UTS of about 90 ksi or more and the percent tensile elongation is about 40 or more.

3. The stent of claim 1 wherein the yield strength is about 50 ksi or greater, the percent strength to peak load is about 30 or greater, the UTS is about 90 ksi or greater, and the percent strength to fracture is about 40 or greater.

4. The stent of claim 1 wherein the magnetic susceptibility is about 3.5×10^{-3} or less.

5. The stent of claim 1 wherein the mass absorption coefficient is about 2.9 cm^2/g or less.

6. The stent of claim 1 wherein the alloy includes about 50 weight percent Ti or greater.

9. The stent of claim 1 wherein the alloy includes 10 weight percent or more of Zr.

10. The stent of claim 1 wherein the alloy includes about 50 weight percent of Zr.

11. The stent of claim 1 wherein the alloy includes about 40 weight percent or more of Ta.

12. The stent of claim 1 wherein the alloy includes about 75 weight percent or less of Ta.

14. The stent of claim 1 wherein the alloy includes about 20 weight percent or less of Mo.

15. The stent of claim 1 wherein the alloy is Ti-Mo, Ti-Ta-Mo, Ti-Ta-Zr-Mo, Ti-Zr-Mo, Ti 6A1-4V-Mo, Ti 6A1-4V-Ta-Mo, Ti 6A1-4V-Ta-Zr-Mo, Ti 6A1-4V-Zr-Mo, Ti-13Nb-13Zr-Mo, Ti-8A1-1Mo-1V, Ti-8A1-1Mo-1V-Zr, or Ti-8A1-1Mo-1V-Ta.

16. The stent of claim 41 wherein the alloy of CP titanium, Ti-6A1-4V, or Ti-6A1-4V ELI alloyed with 40 to 70 weight percent of Ta.

17. The stent of claim 16 where the alloy includes 5 to 20 weight percent of Mo.

18. The stent of claim 1 wherein the alloy is selected from:

CP Titanium alloyed with:	Ti-6A1-4V ELI alloyed with:
43 weight % Ta + 5% Mo	43 weight % Ta + 5% Mo
69 weight % Ta + 5% Mo	69 weight % Ta + 5% Mo
25 weight % Zr + 5% Mo	25 weight % Zr + 5% Mo
49 weight % Zr + 5% Mo	49 weight % Zr + 5% Mo
43 weight % Ta + 10% Mo	43 weight % Ta + 10% Mo
69 weight % Ta + 10% Mo	69 weight % Ta + 10% Mo
25 weight % Zr + 10% Mo	25 weight % Zr + 10% Mo
49 weight % Zr + 10% Mo	49 weight % Zr + 10% Mo
22 weight % Ta + 13% Mo	22 weight % Ta + 13% Mo
35 weight % Ta + 25% Mo	35 weight % Ta + 25% Mo

19. The stent of claim 1 wherein the tubular body includes wall portions having a thickness of about 0.0015 inch to about 0.0150 inch.

20. The stent of claim 1 wherein the tubular body includes a therapeutic agent.

21. A system including a catheter for delivery into a body lumen, the catheter including an expandable member and a stent as described in claim 1 disposable over the

expandable member, the expandable member expandable to a maximum diameter of about 1.5 mm to about 14 mm.

41. A balloon-expandable medical stent, comprising: a generally tubular body including an alloy having about 20 weight percent or more of Ti and about 40 weight percent or more of Ta, the alloy having a yield strength of about 45 ksi or more, a magnetic susceptibility of about +1 or less, and a mass absorption coefficient of about 1.9 cm_2/g or more.

Evidence Appendix

None

Related Proceedings Appendix

None